CLAIMS

What is claimed is:

1. An apparatus for controlling video and audio components distributed over a power-line communications (PLC) network, comprising:

a server configured for controlling the communication of video and audio streams between media devices connected for communicating over said power-line communications (PLC) network; and

means for interpreting commands, received from a user through at least one of said media devices and communicated to said server, and controlling the communication of media content to and/or from said media devices and said server in response thereto.

2. An apparatus for controlling video and audio components distributed over a power-line communications (PLC) network, comprising:

a server configured for controlling the communication of video and audio streams between media devices connected for communicating over said power-line communications (PLC) network;

a power-line communications (PLC) interface coupled to said server for communicating with remote media devices connected over said power-line communications (PLC) network; and

programming associated with said server interface for,

interpreting command codes received over said power-line communications (PLC) network;

controlling the operation of said media devices connected over said power-line communications (PLC) network in response to command codes received and interpreted by said server which were received over said power-line communications (PLC) network.

3. An apparatus as recited in claim 2, wherein said server operates as a media server and media devices configured for communicating with said server over said power-line communications network operate as clients of said server according to a client-server model.

4. An apparatus as recited in claim 2, further comprising at least one media device configured for receiving commands from said server and for receiving and/or transmitting media content over said power-line communications (PLC) network to or from said server.

5. An apparatus as recited in claim 4, wherein said media device is configured for responding to commands received from a remote control unit.

6. An apparatus as recited in claim 5, wherein said remote control unit utilizes infrared signals to communication with said media device.

7. An apparatus as recited in claim 5, wherein said media device is configured for communicating selected commands, received from said remote control unit, to said server.

8. An apparatus as recited in claim 4, wherein said media device may be selected from the group of media devices consisting essentially of television sets, video monitors, audio systems, surround sound systems, speakers, computer devices, personal computers, video and/or audio recording units, video and/or audio playback units, still image capture or playback units, and AC adapters configured for communicating with a media device coupled to said AC adapter.

9. An apparatus as recited in claim 2, further comprising means for encrypting and decrypting data communications between said server and said media devices over said power-line communications (PLC) network.

10. An apparatus as recited in claim 2, wherein said server is configured for receiving video and/or audio content from a content source.

11. An apparatus as recited in claim 11, wherein said content source may be selected from the group of content sources selected from cable connections, satellite feeds, broadcasting antennas, or content playback devices.

12. An apparatus as recited in claim 2, further comprising a media storage element connected to said server for the storage of video and/or audio content received from devices over said power-line communications (PLC) network, and/or for the retrieval of video and/or audio content for output from devices over said power-line communications (PLC) network.

13. An apparatus as recited in claim 12, wherein said media storage element comprises a hard disk drive.

14. An apparatus as recited in claim 13, wherein said hard disk drive is incorporated within said server.

15. An apparatus as recited in claim 13, wherein said hard disk drive is external to said server and coupled to said server by a communications link.

16. An apparatus as recited in claim 15, wherein said communication link coupling said hard disk drive to said server comprises an IEEE 1394 interface.

17. An apparatus as recited in claim 2, further comprising means for isolating a virtual network portion of said power-line communications network from other virtual network portions sharing a single physical power line distribution transformer.

18. An apparatus as recited in claim 17, wherein said means for isolating said virtual network portion comprises a blocking filter connected to the power line for isolating portions of said physical power-line from one another.

19. An apparatus as recited in claim 2, wherein select remote control operating commands, which are not utilized by said media device receiving the commands from the remote control unit, are routed to a server for controlling devices operably coupled to said server.

20. An apparatus as recited in claim 19, further comprising an infrared (IR) mouse connected to said server for converting commands from said server into infrared (IR) commands configured for being received and interpreted by a media device having an infrared (IR) control port.

21. An apparatus as recited in claim 20, wherein said server is configured for sending commands over said infrared (IR) mouse in combination with controlling the receipt or transmission of video and/or audio streams from said media device.

22. An apparatus as recited in claim 2, further comprising means for adjusting decoding latency between media devices connected to said power-line communications (PLC) network to synchronize output timing.

23. An apparatus as recited in claim 22, wherein said means for adjusting decoding latency is executed by said server for controlling decoding delay within said media devices configured for connection to said power-line communications network.

24. An apparatus as recited in claim 22, wherein said means for adjusting decoding latency comprises increasing or decreasing the buffering of streams for one or more devices to change the decoding delay.

25. An apparatus as recited in claim 2, further comprising means for live pausing of content being viewed, wherein after un-pausing play the programming can be viewed without loss.

26. An apparatus as recited in claim 25, wherein said means for live pausing stores content upon a storage device for delayed playback and while paused continues to store the programming for later resumption from the paused location.

27. An apparatus as recited in claim 2, further comprising means for controlling media access within said power-line communications (PLC) network.

28. An apparatus as recited in claim 27, wherein parental controls are established for limiting content access by viewing location, by password, or by biometric identifier.

29. An apparatus as recited in claim 28, wherein multiple levels of said content limits are established.

30. An apparatus as recited in claim 2, further comprising means for locking the operations of a first media device for which commands have been received from a second media device, said locking preventing media devices other than said second media device from altering the operations of said first media device.

31. An apparatus as recited in claim 30, wherein said means for locking may be bypassed utilizing a password or access token.

32. An apparatus as recited in claim 2, further comprising means for controlling the portion of said bandwidth to be utilized by a given media device configured for communication over said power-line communications network with said server.

33. An apparatus as recited in claim 32, further comprising means for prioritizing bandwidth utilization among media devices configured for communication over said power-line communications network.

34. An apparatus as recited in claim 2, further comprising means for communicating multiple video and/or audio streams to a given media device from said server.

35. An apparatus as recited in claim 34, wherein said multiple video and/or audio streams are communicated to a media device configured for displaying picture-in-picture.

36. An apparatus as recited in claim 2, further comprising an AC adapter configured for powering an electronic device unable to operate directly from AC line power.

37. An apparatus as recited in claim 36:

wherein said AC adapter is configured for communicating data between said electronic device and devices coupled to the AC power-line;

wherein said AC power line is to be utilized as a power-line communications network.

38. An apparatus as recited in claim 37, wherein said electronic device unable to operate directly from AC line power is a portable device.

39. An apparatus as recited in claim 37, wherein said electronic device unable to operate directly from AC line power is selected from the group of electronic devices consisting essentially of flat panel displays, still cameras, video cameras, personal digital assistants, cellular phones, laptop computers, audio recorders, audio players, printers, scanners, modems, routers, hubs, switches, telephones, and wireless access points.

40. An apparatus configured for being remotely controlled, comprising:

a media device configured for inputting or outputting video and/or audio streams;

a power-line communications interface coupled to said media device;

means for receiving control signals at said media device from a remote control unit; and

means for communicating at least a portion of said control signals, received at said media device, over said power-line communications (PLC) network for receipt by a remote media device.

41. An apparatus as recited in claim 40, wherein said remote media device comprises a media server configured for controlling the communication of media

streams over said power-line communications (PLC) network.

42. An apparatus as recited in claim 41, wherein said media device coupled to said power-line communications network is configured for receiving media content input or transmitting media content output in response to commands received from said media server.

43. An apparatus as recited in claim 40, wherein said media device is selected from the group of media devices consisting essentially of video display devices, audio output devices, video recording devices, video playback devices, audio recording devices, audio playback devices, and combinations thereof.

44. An apparatus as recited in claim 40, wherein said media device comprises a television set.

45. An apparatus as recited in claim 40, wherein said means for receiving control signals comprises an infrared (IR) receiver on said media device which is configured for receiving signals from an infrared remote control device.

46. An apparatus as recited in claim 45, wherein said means for communicating selected control signals comprises a circuit configured for detecting said selected control signals being received and encoding said signals upon said power-line communications network for receipt by another media device connected to said power-line communications network.

47. An apparatus as recited in claim 40, wherein said media devices are connected to one another over a power-line communications (PLC) network and configured for receiving operational commands from a media server also coupled to said power-line communication (PLC) network.

48. An apparatus configured for being remotely controlled, comprising:
a media device configured for inputting or outputting video and/or audio

streams; and

a power-line communications interface coupled to said media device configured for transferring streaming video and/or audio over a power-line communications (PLC) network for input to said media device, or for output from said media device.

49. An apparatus as recited in claim 48:

further comprising means for receiving operating commands over said power-line communications interface from other devices communicating over said power-line communications (PLC) network;

wherein said operating commands comprise commands directing media input, and/or media output for said media device.

50. An apparatus as recited in claim 48, further comprising means for adjusting input or output latency for said media device to synchronize input or output timing with other media devices also coupled to said power-line communications network.

51. An apparatus as recited in claim 50, wherein said means for adjusting latency comprises a circuit for altering the encoding or decoding latency of a content stream to or from said media device.

52. An apparatus as recited in claim 51, wherein said circuit for altering the encoding or decoding latency is configured to modulate the depth of buffering in response to changes in the encoding or decoding latency.

53. An apparatus as recited in claim 48, further comprising means for executing a plug-in-play interface for communicating operating parameters of said media device over said power-line communications (PLC) interface.

54. An apparatus as recited in claim 48, wherein said media device is selected from the group of media devices consisting essentially of video display

devices, audio output devices, video recording devices, video playback devices, audio recording devices, audio playback devices, and combinations thereof.

55. An apparatus for powering electronic devices from an AC power line, comprising:

a housing;

an electrical interface;

a power-supply within said housing configured for converting AC line power to a format suitable for powering an electronics device through said electrical interface; and

a power-line communications interface within said housing configured for communicating data over said electrical interface between said apparatus and other devices which communicate with one another over a power-line communications network.

56. An apparatus as recited in claim 55, wherein said suitable format comprises regulating allowable voltage, current, and supply ripple.

57. An apparatus as recited in claim 55, wherein said housing is configured as a receptacle for physically receiving a portion of said electronics device.

58. An apparatus as recited in claim 55, wherein said power-line communications interface is configured for communicating control data and media streams to and from said electronics device.